

AD-A127 272

19318B MLRS MISSILE NUMBER BN-207 BN-205 BN-190 ROUND  
NUMBER V-408/PQT-10.. (U) ARMY ELECTRONICS RESEARCH AND  
DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER JAN 83

UNCLASSIFIED

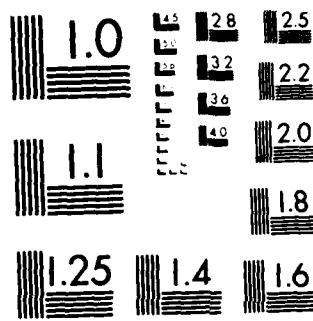
ERADCOM/ASL-DR-1287

1/1

F/G 4/2

NL

END  
DATE FILED  
5-95  
DTIC



MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS 1963 A

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

Jan 83  
DR 120

AD

(P)

METEOROLOGICAL DATA REPORT

19318B MLRS

Missile Number BN-207, BN-205, BN-190

Round Number V-408/PQT-106,

V-409/PQ-107, V-410/PQ-108

28 January 1983

by

AD

DONALD C. KELLER  
Program Support Coordinator  
Phone Number (505) 679-9568  
AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

DTIC FILE COPY

.....  
**ECOM**  
UNITED STATES ARMY ELECTRONICS COMMAND

**DTIC**  
**ELECTE**  
**APR 26 1983**  
**S** **D**  
**D**

83 04 21 087

DISPOSITION INSTRUCTIONS

Destroy this report when it is no longer needed. Do not return to the originator.

DISCLAIMER

The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referenced herein.

Disposition Fol	
NTIS GRA&I	
DTIC TAB	
Unannounced	
Justification	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	

INSPECTION COPY

NTIS

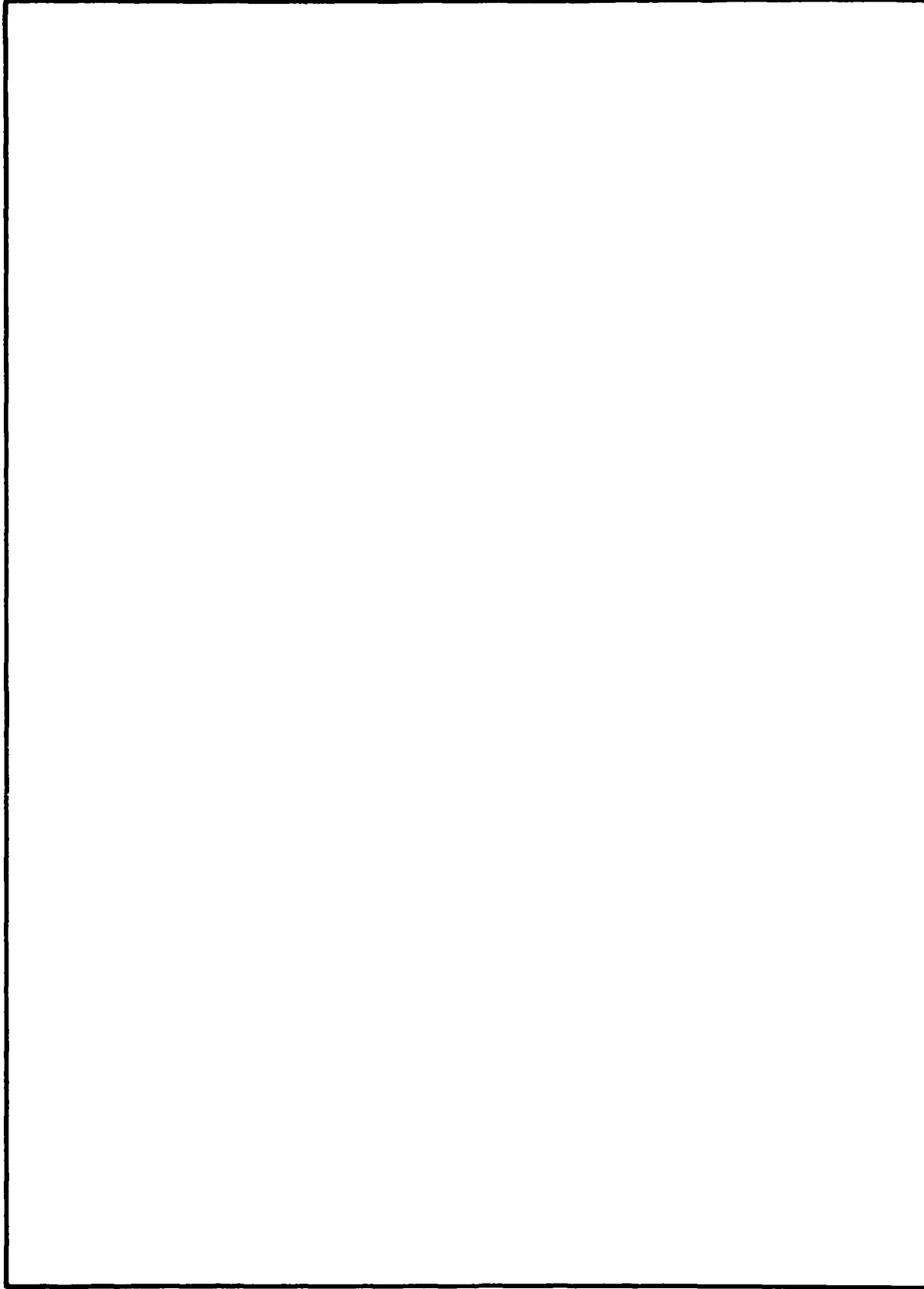
INSPECTOR

~~UNCLASSIFIED~~

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1207	2. GOVT ACCESSION NO. <i>AD-A127272</i>	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19310B MLRS "Missile Number RU-207, RU-205, RU-100 Round/Round Number V-403/PNT-106, V-400/PN-107	5. TYPE OF REPORT & PERIOD COVERED	
7. AUTHOR(s) White Sands Meteorological Team	6. PERFORMING ORG. REPORT NUMBER	
9. PERFORMING ORGANIZATION NAME AND ADDRESS	8. CONTRACT OR GRANT NUMBER(s) DA Task 1FG66702D127-02	
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research and Development and Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research and Development and Adelphi, MD 20783	12. REPORT DATE January 1983	
16. DISTRIBUTION STATEMENT (of this Report)	13. NUMBER OF PAGES 20	
	15. SECURITY CLASS. (of this report) <del>UNCLASSIFIED</del>	
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)	Approved for public release; distribution unlimited.	
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)	Meteorological data gathered for the launching of the 19310B MLRS, "Missile Number RU-207, RU-205, RU-100, Round Number V-403/PNT-106, V-400/PN-107, V-410/PN-108, are presented in tabular form.	

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

A large rectangular area of the page has been completely redacted with a solid black ink. This redacted area occupies most of the central portion of the page, bounded by a thin black border.

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

Copy available to DDCI does not  
permit fully legible reproduction

## INTRODUCTION

192100 19 Dec, Missiles Numbers PII-207, PH-208, and 190, Round 1, were V-410/POT-100, V-410/POT-102, and V-410/POT-103, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1549:49, 1549:54, and 1549:58 MST, 19 Dec 1970. The scheduled launch times were 1549:00, 1549:04.5, and 1549:09 MST.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}$ C), relative humidity, dew point ( $^{\circ}$ C), density ( $\text{gm/m}^3$ ), wind direction and speed, and cloud cover were made at the LC-33 Test Site at T=0 Minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from Pilot-balloon observations at:

#### SITE AND ALTITUDE

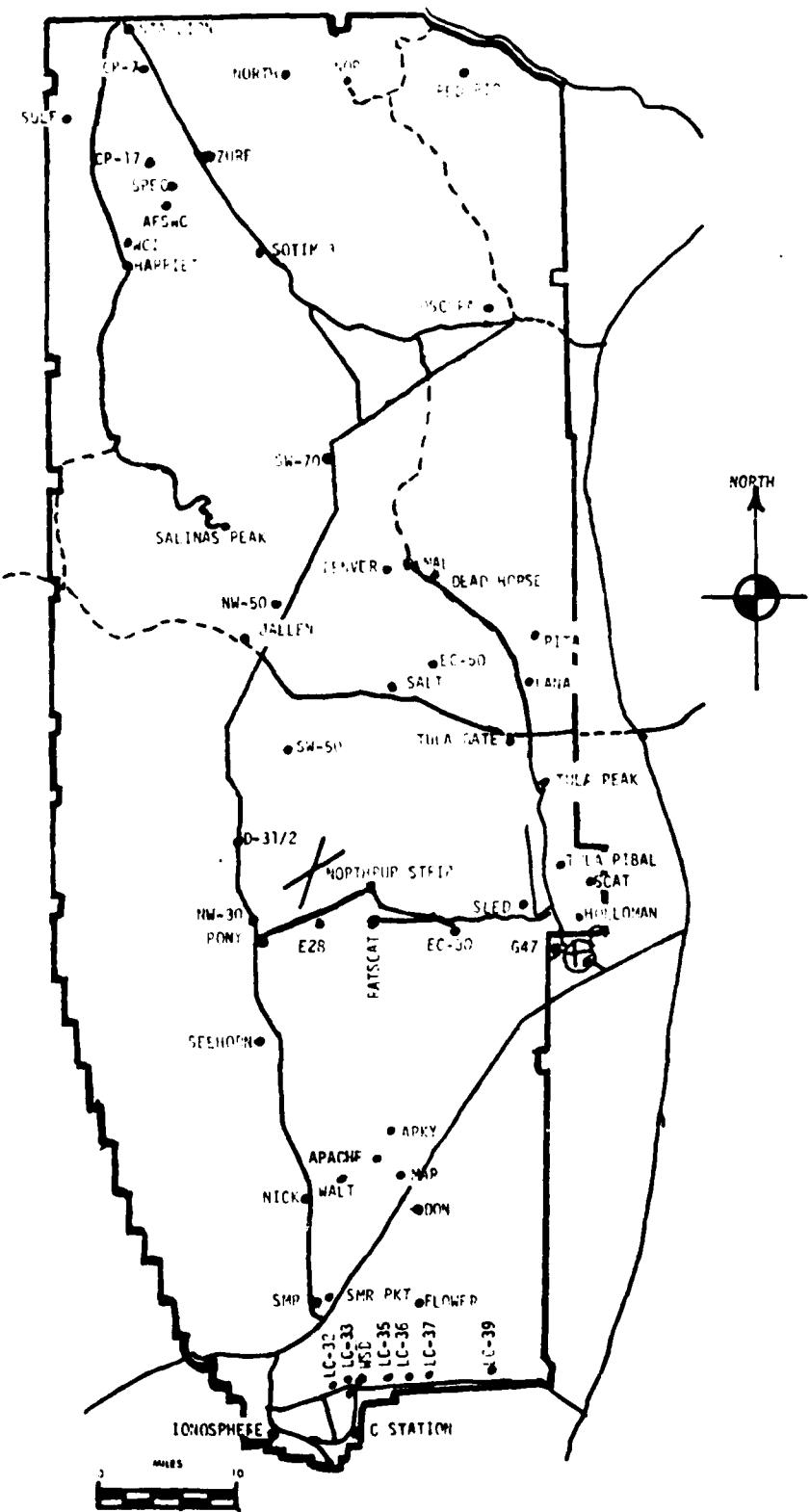
MSD 1550 MST  
700' 1549 MST

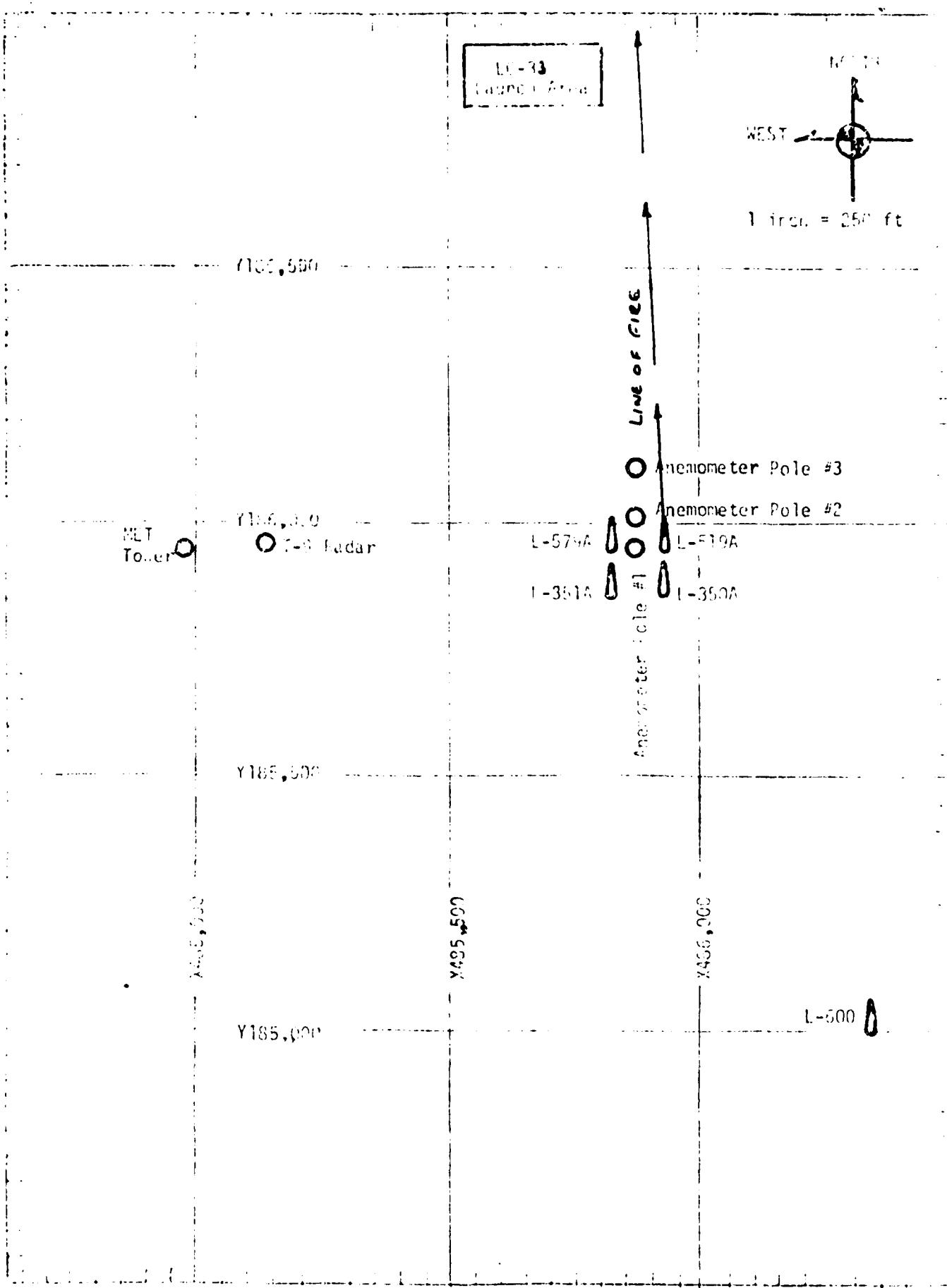
(2) Air structure data (rawinsondes) were collected at the following Test Sites:

#### SITE AND TIME

MSD 1130 MST  
MSD 1230 MST  
MSD 1530 MST

## WSMR METEOROLOGICAL SITES





1

卷之三

DEVANAGARI CALLIGRAPHY

TIME:	1550		
DRY BULB TEMP.	14.0		
WET BULB TEMP.	6.6		
WET BULB DEPR.	7.4		
Dew Point	-1.2		
RELATIVE HUMID.	35		

TABLE 2

10-30 FIXED POLE ANEMOMETER MEASUREMENTS

	VEL. FEET SEC.						
T	KTS						
T	268	11	254	255	09	252	10
T	270	10	252	266	09	269	10
T	282	09	242	275	09	270	11
T	275	09	240	276	07	272	14
T	265	10	240	262	10	267	14

3

10-30 FIXED POLE ANEMOMETER MEASUREMENTS

	VEL. FEET SEC.						
T	KTS						
T	278	09	252	261	10		
T	275	08	250	274	10		
T	274	10	250	263	12		
T	280	13	250	260	17		
T	242	10	240	259	13		

	VEL. FEET SEC.						
T	KTS						
T	276	10	250	266	10		
T	273	09	250	268	13		
T	271	13	250	269	18		
T	270	17	250	254	19		
T	265	16	250	267	21		

4  
T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 28 January 1983

1) WSP  
TIME: 1550 MST  
WSTM COORDINATES:  
- 430,052.29  
184,982.45  
3,993.75

2) WSP  
TIME 1540 MST  
WSTM COORDINATES:  
X= 511,988.37  
Y= 247,396.36  
H= 3,996.83

1) MIDLAYER METERS ASL	DIRECTION DEGREES	SPEED KNOTS	2) LAYER MIDLAYER METERS ASL	DIRECTION DEGREES	SPEED KNOTS
100	240	16	SURFACE	260	10
150	245	23	150	269	21
200	256	23	200	272	23
250	262	24	270	275	23
300	272	20	330	278	22
350	269	23	390	280	24
400	268	24	500	283	27
450	272	26	650	288	33
500	277	27	800	294	34
550	276	27	950	298	31
600	289	28	1150	308	25
650	304	30	1350	316	25
700	322	34	1550	323	26
750	331	44	1750	334	30
800	327	56	2000	346	28

Data obtained from a Nike Hercules Radar  
Tracked pilot-balloon observationData obtained from a Single Theodolite  
Tracked pilot-balloon observation.

TABLE 5

## AIMING AND T-TIME COMPUTER MET MESSAGES

28 January 1983

WSD 1130 MST	WSD 1330 MST	WSD 1530 MST
METCM1324064	METCM1324064	METCM1324064
231850122875	282050122873	132250122874
00480020 28680375	00444030 28960873	00462018 28380874
01485024 28420864	01485033 28600863	01469021 28650864
02494025 28100838	02496022 28320837	02493018 28360838
03503023 27720798	03498026 27990798	03486026 27950799
04531026 27270750	04528031 27590750	04542029 27530751
05545041 27040705	05533037 27330705	05588039 27320706
06530044 26380662	06524037 26920662	06574063 2758066
07524047 26460621	07525045 26490621	07555061 2723062
03541043 26060582	08537066 26350582	08541063 2631058
09530062 26030545	09539067 26330546	09531072 2633054
10503074 25970510	10540062 25950512	10525072 2536051
11514086 25520478	11529067 25430479	11521069 2538048
12525087 24910431	12519080 24770432	12509072 2474043

STATION ALTITUDE 3949.00 FEET MSL  
28 JUN. 83 1130 HRS. MST  
ASCENSION NO. 44

SIGHT IN AIR LEVEL CLOUDS  
0200(120044  
WHITE SAUCER  
TABLE C

ON COLD HILL CLOUDLINE,  
32°40'04" LAT U.T.  
106°37'33" LONG D.F.

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE METERS FEET	TEMPERATURE DEGREES CELSIUS	AIR DEWPOINT DEGREES CELSIUS		REL. HUM. PERCENT
			DEGREES	DEGREES	
874.6	3989.0	12.5	-3	-4.5	4.5
871.4	4089.7	11.4	-5.1	-5.1	51.9
859.0	4768.3	8.6	-5.6	-5.6	42.0
839.0	5282.6	6.6	-5.3	-5.3	49.0
793.0	6633.2	2.9	-5.4	-5.4	63.0
742.5	8369.5	-1.9	-4.9	-4.9	60.0
712.5	9107.6	-3.9	-8.7	-8.7	69.0
700.0	9204.4	-2.8	-11.0	-11.0	53.0
687.3	10181.3	-2.8	-14.2	-14.2	41.0
665.5	11219.1	-3.9	-19.3	-19.3	29.0
627.9	12715.9	-8.0	-24.1	-24.1	26.0
571.0	15079.9	-13.8	-30.4	-30.4	23.0
531.1	16029.4	-12.4	-32.3	-32.3	17.0
522.2	17354.5	-11.7	-32.4	-32.4	16.0
500.0	18441.8	-15.0	-34.5	-34.5	17.0
457.8	20609.8	-20.9	-38.3	-38.3	19.0
409.0	23843.9	-28.1	-41.9	-41.9	25.0
369.5	25785.2	-27.1	-42.7	-42.7	21.7
361.7	26226.6	-27.6	-43.1	-43.1	21.0
329.0	28516.3	-32.9	-48.1	-48.1	20.0
320.7	29038.3	-32.9	-48.5	-48.5	19.3
314.3	29508.1	-30.0	-46.1	-46.1	19.0
307.3	29792.0	-28.5	-44.8	-44.8	19.0
309.0	30606.0	-27.9	-44.5	-44.5	19.0
276.9	32492.4	-30.2	-46.2	-46.2	19.0
270.9	33066.0	-30.0	-46.1	-46.1	19.0
259.0	34978.9	-32.7	-48.4	-48.4	19.0
244.0	35650.4	-34.1	-49.6	-49.6	19.0
209.0	39449.8	-42.7			
174.0	42992.0	-51.0			
159.0	46119.0	-58.9			
138.1	47814.7	-62.6			
122.7	50206.3	-64.9			
120.3	50605.4	-63.2			
114.1	51679.3	-63.0			
112.6	51648.7	-61.9			
106.5	53086.7	-61.5			
100.0	54367.2	-64.0			
88.9	57410.6	-68.0			
81.1	58551.0	-71.4			

STATION ALTITUDE 3989.00 FEET SL  
28 JAN. 63 1130 HRS MDT  
ASCENSION NO. 44

## SIGNIFICANT LEVEL DATA

0260020044

WHITE SANDS

TABLE C

cont'd

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MILLIMETERS MSL FEET	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
-----------------------	---	--	---------------------

78.0	59326.3	-65.9	
72.0	60420.8	-68.4	
70.0	61481.2	-66.5	
66.8	62425.0	-63.6	
61.2	64202.0	-62.6	
58.2	65225.9	-62.6	
56.0	68319.9	-62.6	
42.2	71793.6	-60.5	

GEODLIC COORDINATES  
32°40'43" LAT UG  
106°37'33" LON UG

STATION ALTITUDE 3949.00 FEET MSL  
28 JAN. 83 2130 HRS. :51  
ASCENSION NO. 44

UPPER AIR DATA  
0200020044  
WHITE SANDS  
106°.376°.3 LAT LONG

GEOMETRIC PRESSURE  
ALITUDE MILLIBARS DEGREES C  
MSL FEET

TEMPERATURE  
AIR DEPOINT C  
CLOUDGRADE

REL.HUM.  
PERCENT  
DEGREES C  
KNOTS

SPEED OF  
SOUND  
METER  
KNOTS

DENSITY  
GM/CURIC  
KNOTS

INDEX  
REFRACTION

3989.0	874.6	12.5	.3	43.0	1063.7	659.3	270.0	20.0
4000.0	874.3	12.4	-.3	41.7	1063.9	659.1	270.1	20.0
4500.0	853.4	9.7	-.6	37.7	1055.1	655.9	275.5	21.9
5000.0	842.8	7.7	-3.4	45.2	1043.1	653.6	276.4	23.8
5500.0	827.3	6.0	-3.3	51.3	1030.1	651.6	278.9	25.7
6000.0	812.0	4.6	-3.3	56.4	1016.0	650.0	261.2	25.8
6500.0	797.0	3.3	-3.4	61.6	1002.1	648.4	264.0	25.4
7000.0	782.1	1.9	-3.7	66.6	978.3	646.8	266.0	22.9
7500.0	767.4	.5	-4.0	71.5	974.7	645.2	292.3	23.1
8000.0	753.0	-.5	-4.5	76.4	961.3	645.5	277.7	25.5
8500.0	738.8	-2.2	-5.4	78.6	947.7	642.0	302.2	27.8
9000.0	724.7	-3.1	-7.2	73.3	933.2	640.8	304.5	32.3
9500.0	711.0	-3.7	-9.1	66.0	917.7	640.0	366.2	36.8
10000.0	697.4	-2.8	-11.6	50.6	877.5	641.0	304.7	40.4
10500.0	684.2	-3.0	-14.8	39.3	881.2	640.7	303.1	45.7
11000.0	671.1	-3.6	-17.8	32.1	866.7	639.9	300.1	44.2
11500.0	658.5	-4.7	-20.2	28.4	853.5	638.6	297.1	45.0
12000.0	645.6	-6.0	-21.8	27.4	841.5	636.9	294.3	46.4
12500.0	633.2	-7.4	-23.4	26.4	829.6	635.2	293.5	48.3
13000.0	620.9	-8.7	-24.8	25.6	817.5	633.7	294.2	49.3
13500.0	608.7	-9.9	-26.2	25.0	805.2	632.2	298.2	44.9
14000.0	596.8	-11.2	-27.5	24.4	793.2	630.7	301.8	40.7
14500.0	585.1	-12.4	-29.8	23.7	781.3	629.2	295.9	40.7
15000.0	573.6	-13.6	-30.4	23.1	769.7	627.7	303.5	47.2
15500.0	562.4	-13.5	-30.8	21.6	754.1	627.4	302.6	54.5
16000.0	551.2	-13.1	-31.2	20.0	738.2	626.5	302.2	61.6
16500.0	540.5	-12.7	-31.8	18.4	722.5	625.8	297.0	64.9
17000.0	529.6	-12.3	-32.3	16.6	707.1	629.3	269.0	66.3
17500.0	519.2	-12.1	-32.7	16.1	692.7	629.5	264.2	70.0
18000.0	508.9	-13.6	-33.6	16.0	685.0	627.6	264.5	76.2
18500.0	496.8	-15.2	-34.6	17.1	673.4	625.8	265.7	79.3
19000.0	484.6	-16.5	-35.3	17.5	664.6	624.2	266.8	80.4
19500.0	478.9	-17.9	-36.3	16.0	653.5	622.5	267.6	79.1
20000.0	469.1	-19.2	-37.2	16.4	643.8	620.8	288.8	17.7
20500.0	459.8	-20.6	-38.1	18.9	634.2	619.2	240.1	76.4
21000.0	450.4	-21.8	-38.7	19.7	624.1	617.7	291.4	80.7
21500.0	441.1	-22.9	-39.2	20.7	615.9	616.4	292.5	85.1
22000.0	432.0	-24.0	-39.8	21.6	603.9	615.0	292.9	89.1
22500.0	423.1	-25.1	-40.3	22.5	594.1	613.0	293.5	92.4
23000.0	414.3	-26.2	-40.9	23.4	584.5	612.2	293.5	92.0

STATION ALTITUDE 3949.00 FEET MSL  
32°40'04.3 LAT LONG  
106°.376°.3 LONG

TABLE 7

STATION ALTITUDE 3989.00 FT. MSL  
28 JAN. 83 1130 HRS MST  
ASCENSION NO. 44

UPPER AIR DATA  
0200020044  
WHITE SANDS

TABLE 7

Cont'd

GEOMETRIC COORDINATES,  
32°40'43" LAT DEG.  
106°37'33" LON DEG

GEOMETRIC ALTITUDE M-L FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	REL.HUM. CLOUD POINT CENTIGRADE	SOUND METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES; WIND VELOCITY; SPED KNOTS	INDEX OF REFRACTION	
25500.0	4050.0	-27.3	-41.3	24.4	575.0	610.8	293.7	93.0	1.000129
24000.0	397.1	-28.0	-42.0	24.7	564.6	610.0	293.7	102.6	1.000127
24500.0	389.1	-27.8	-42.4	23.6	562.3	610.3	293.9	116.6	1.000124
25000.0	380.4	-27.5	-42.3	22.6	540.1	610.6	294.5	110.4	1.000121
25500.0	373.0	-27.2	-42.6	21.6	528.3	611.0	295.4	109.6	1.000119
26000.0	365.2	-27.3	-42.9	21.0	517.5	610.8	296.0	92.7	1.000116
26500.0	357.5	-28.2	-43.7	20.9	508.4	609.7	296.8	93.9	1.000114
27000.0	349.9	-29.4	-44.8	20.7	500.1	608.3	294.2	76.8	1.000112
27500.0	342.6	-30.5	-45.9	20.4	491.9	606.8	274.6	83.5	1.000110
28000.0	335.3	-31.7	-47.0	20.2	483.8	605.4			1.000108
28500.0	328.2	-32.9	-48.1	20.0	475.8	603.9			1.000106
29000.0	321.2	-32.9	-48.5	19.1	465.7	603.9			1.000104
29500.0	314.4	-30.0	-46.1	19.0	450.5	607.5			1.000101
30000.0	307.8	-28.5	-44.8	19.0	438.2	609.4			1.000098
30500.0	301.3	-28.0	-44.4	19.0	428.2	610.0			1.000096
31000.0	295.0	-28.4	-44.7	19.0	419.8	609.5			1.000094
31500.0	288.8	-29.0	-45.2	19.0	412.0	608.8			1.000092
32000.0	282.8	-29.6	-45.7	19.0	404.4	608.0			1.000091
32500.0	276.8	-30.2	-46.2	19.0	396.9	607.5			1.000089
33000.0	271.0	-30.0	-46.1	19.0	388.2	607.5			1.000087
33500.0	265.2	-30.7	-46.7	19.0	381.1	606.0			1.000085
34000.0	259.6	-31.4	-47.3	19.0	374.1	605.7			1.000084
34500.0	254.1	-32.2	-47.9	19.0	367.3	604.8			1.000082
35000.0	248.7	-32.9	-48.6	19.0	360.6	603.9			1.000081
35500.0	243.4	-33.6	-49.3	19.0	354.2	602.7			1.000079
36000.0	238.1	-34.8	-50.9	17.5**	348.0	601.5			1.000078
36500.0	232.9	-35.6	-52.9	15.2**	341.8	600.2			1.000076
37000.0	227.8	-36.8	-55.0	13.0**	335.8	548.9			1.000075
37500.0	222.6	-37.8	-57.1	10.8**	329.8	597.7			1.000074
38000.0	218.0	-38.6	-59.9	8.6**	324.0	596.4			1.000073
38500.0	213.2	-39.8	-62.9	6.4**	318.9	595.1			1.000072
39000.0	208.5	-40.9	-66.7	4.2**	312.7	593.3			1.000071
39500.0	204.0	-41.8	-72.6	2.0**	307.2	592.0			1.000068
40000.0	199.5	-42.6			301.8	591.2			1.000067
40500.0	195.0	-44.2			296.7	589.5			1.000066
41000.0	190.6	-45.6			291.8	587.7			1.000065
41500.0	186.3	-46.9			286.9	586.0			1.000064
42000.0	182.1	-48.3			282.1	584.2			1.000063
42500.0	178.0	-49.7			277.4	582.4			1.000062
43000.0	173.9	-51.0			272.6	580.0			1.000061

\*\* AIR LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

XX WIND DATA IN AL. DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3984.60 FEET "SL  
28 JAN. 53 1130 HRS AST  
ASCENSION NO. 44

UPPER AIR DATA  
028100<sup>c</sup>0044  
WHITE SANDS  
MOUNTAIN

TABLE 7

CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CELSIUS GRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA WIND DIRECTION DEGREES (TRUE)	WIND DATA WIND SPEED KNOTS	INDEX OF REFRACTION
49500.0	169.9	-52.3	267.9	579.0	1.000060			
49000.0	165.9	-53.5	263.1	577.3	1.000059			
48500.0	162.0	-54.8	258.4	575.7	1.000058			
48000.0	158.2	-56.1	253.9	574.0	1.000057			
47500.0	154.5	-57.3	249.3	572.3	1.000056			
47000.0	150.8	-58.6	244.9	570.0	1.000055			
46500.0	147.2	-59.7	240.3	569.1	1.000054			
47000.0	143.7	-60.8	235.8	567.7	1.000053			
47500.0	140.2	-61.9	231.3	566.2	1.000052			
48000.0	136.8	-62.8	226.6	565.1	1.000050			
48500.0	133.5	-63.3	221.6	564.4	1.000049			
49000.0	130.2	-63.7	216.7	563.8	1.000048			
49500.0	127.1	-64.2	211.9	563.1	1.000047			
50000.0	124.0	-64.7	207.2	562.5	1.000046			
50500.0	120.9	-65.6	201.1	563.9	1.000045			
51000.0	118.0	-63.1	195.7	564.0	1.000044			
51500.0	115.1	-63.0	190.9	564.7	1.000042			
52000.0	112.3	-61.9	185.2	566.5	1.000041			
52500.0	109.6	-61.7	180.6	566.5	1.000040			
53000.0	107.0	-61.5	176.1	566.7	1.000039			
53500.0	104.4	-62.3	172.4	565.7	1.000038			
54000.0	101.8	-63.3	169.0	564.4	1.000038			
54500.0	99.3	-64.2	165.6	563.2	1.000037			
55000.0	96.9	-64.6	162.0	562.3	1.000036			
55500.0	94.5	-65.5	158.5	561.4	1.000035			
56000.0	92.2	-66.1	155.1	560.5	1.000035			
56500.0	89.9	-66.8	151.8	559.7	1.000034			
57000.0	87.7	-67.5	148.5	558.7	1.000033			
57500.0	85.5	-68.0	145.2	558.0	1.000032			
58000.0	83.4	-68.2	141.7	557.7	1.000032			
58500.0	81.3	-68.4	138.3	557.5	1.000031			
59000.0	79.3	-67.0	134.0	559.4	1.000030			
59500.0	77.1	-66.2	130.1	560.5	1.000029			
60000.0	75.4	-67.0	127.4	559.4	1.000028			
60500.0	73.5	-67.7	124.7	558.4	1.000028			
61000.0	71.7	-68.1	121.9	557.8	1.000027			
61500.0	69.9	-66.4	117.9	560.1	1.000026			
62000.0	68.2	-64.9	114.1	562.2	1.000025			
62500.0	66.5	-63.6	110.6	564.0	1.000025			
63000.0	64.9	-63.3	107.8	564.4	1.000024			

xx WIND DATA INVALID DUE TO MISSING WIND AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE: 3989.00 FEET MSL  
 28 JAN. 1953 1130 HRS MST  
 ASSEMBLATION NO. 44

UPPER AIR DATA

02A0020044

WHITE SAILS

TABLE 7

GEODETIC COORDINATES  
 32°44'43" LAT LEG  
 106°37'33" LON LEG

Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION WEATHER(IN)	TRUE X OF REFRACTION
63500.0	63.4	-63.0		105.0	564.8	263.9	37.8
64000.0	61.8	-62.7		102.3	565.1	283.0	27.1
64500.0	60.3	-62.6		99.8	565.4	280.6	15.7
65000.0	58.8	-62.5		97.4	565.3	271.7	7.0
65500.0	57.4	-62.0		95.0	565.3	160.1	2.5
66000.0	56.0	-62.6		92.7	565.3	117.0	11.5
66500.0	54.7	-62.6		90.5	565.3	113.1	21.7
67000.0	53.3	-62.6		88.3	565.3	110.7	34.2
67500.0	52.1	-62.6		86.1	565.3	109.2	48.1
68000.0	50.8	-62.6		84.0	565.3	109.6	49.1
68500.0	49.6	-62.5		82.0	565.4	111.9	37.6
69000.0	48.4	-62.2		79.9	565.8	124.2	15.9
69500.0	47.2	-61.9		77.8	566.2	271.2	25.4
70000.0	46.1	-61.6		75.8	566.7		1.000017
70500.0	45.0	-61.3		73.9	567.1		1.000016
71000.0	43.9	-61.0		72.0	567.5		1.000016
71500.0	42.8	-60.7		70.2	567.9		1.000016

STATION ALTITUDE: 3983.00 FT. SL  
28 JULY 1953 1130 hrs. MST  
ASCENSION NO. 44

MANDATORY LEVELS  
028000Z00014  
WHITE SANDS  
TABLE C

STATION COORDINATES  
32°40'00" LAT DEG  
106°37'03" LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FLEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
					DIRECTION E. GREECE (TN)	SPEED KNOTS
850.0	4765.	8.6	-3.6	42.	75°1	22.9
400.0	6394.	3.5	-3.4	61.	262.4	25.9
750.0	8099.	-1.2	-4.6	77.	298.7	25.8
700.0	9875.	-2.8	-11.0	53.	305.0	32.7
650.0	11616.	-5.6	-21.2	28.	295.3	45.9
600.0	13854.	-10.8	-27.1	25.	300.0	41.8
550.0	16n32.	-13.1	-31.3	20.	302.1	62.3
500.0	16n16.	-15.0	-34.5	17.	275.5	78.9
450.0	20975.	-21.8	-38.7	20.	291.5	80.9
400.0	23805.	-28.1	-41.9	25.	293.7	99.4
350.0	26954.	-29.4	-44.8	21.	294.7	76.8
300.0	30546.	-27.9	-44.3	19.	9999.0	9999.0XX
250.0	34803.	-32.7	-48.4	19.	9999.0	9999.0XX
200.0	39854.	-42.7			9999.0	9999.0XX
175.0	42760.	-50.7			9999.0	9999.0XX
150.0	45994.	-58.9			9999.0	9999.0XX
125.0	49689.	-64.5			9999.0	9999.0XX
100.0	54197.	-64.0			9999.0	9999.0XX
80.0	58626.	-67.5			246.0	84.3
70.0	61270.	-66.5			278.9	43.2
60.0	64374.	-62.6			279.9	14.0
50.0	68063.	-62.6			110.8	42.5

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3989.00 FEET MSL  
 28 JAN. 83 1330H RMS MST  
 ASCENSION NO. 45

SIGNIFICANT LEVEL DATA  
 02800020045  
 WHITE SANDS

TABLE 9

GEODETIC COORDINATES  
 32°40'04.3 LAT DEG  
 106°37'03.3 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	KEL.HUM. PRCHLT
873.3	3989.0	15.5	.9	37.0
869.2	4119.4	12.9	-5.6	27.0
860.0	4732.3	10.3	-3.7	37.0
780.7	6725.9	5.5	-4.6	49.0
763.3	7634.8	2.7	-4.9	57.0
753.7	8684.4	1.7	-12.4	34.0
740.0	9924.7	-.3	-20.5	20.0
603.7	13742.3	-10.3	-30.6	17.0
586.3	14481.7	-10.9	-33.1	14.0
574.9	14979.8	-8.6	-31.2	14.0
566.3	15364.1	-8.3	-31.0	14.0
526.5	17211.6	-11.6	-33.7	14.0
500.0	18503.1	-15.5	-36.2	15.0
406.6	23495.1	-29.7	-44.5	22.0
400.0	23879.0	-29.8	-40.0	36.0
394.1	24226.8	-30.8	-36.0	60.0
392.0	24351.7	-30.5	-35.1	64.0
387.1	24645.8	-30.8	-38.0	49.0
377.6	25226.4	-30.7	-37.9	49.0
365.7	25973.9	-31.3	-40.1	41.0
351.9	26873.4	-29.9	-43.5	25.0
345.1	27330.4	-30.5	-45.6	21.0

STATION ALTITUDE 3989.00 FEET MSL  
28 JAN. 83 1330 HRS MST  
ASCENSION NO. 115

UPPER AIR DATA  
0280020045  
WHITE SAILS

TABLE 10

GEOMETRIC ALTITUDE MSL FLEET MILLIBARS	PRESSURE ALTITUDE DEGREES	TEMPERATURE AIR DEGREE CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/SECIC METER	SPEED OF SOUND KNOTS	WIND DATA DIR/VEL/CHN DEGREES (IN)	WIND SPEED KNOTS	INFLUX OF REFRACTION
3989.0	873.0	15.5	9	37.0	1051.0	662.0	270.0	29.9
4000.0	873.0	15.3	4	36.2	1051.5	662.5	250.4	26.3
4500.0	857.2	11.3	-4.3	33.2	1047.0	657.7	255.9	20.3
5000.0	841.0	9.7	-5.6	38.5	1034.6	655.6	242.2	27.0
5500.0	826.3	8.5	-3.9	41.2	1020.0	654.4	269.1	26.1
6000.0	811.1	7.2	-4.2	44.0	1005.7	653.0	276.3	25.6
6500.0	796.3	6.0	-4.5	46.8	991.5	651.6	283.4	25.7
7000.0	781.6	4.7	-4.7	50.7	978.1	650.0	267.6	27.0
7500.0	767.2	3.1	-4.9	55.7	965.3	648.2	294.2	28.4
8000.0	752.4	2.4	-7.2	49.0	950.3	647.2	294.5	29.9
8500.0	738.6	1.9	-10.9	38.0	934.6	646.5	290.5	32.9
9000.0	725.0	1.2	-14.2	30.4	919.6	645.6	298.2	34.2
9500.0	711.4	.4	-17.4	24.6	905.2	644.6	299.8	36.4
10000.0	698.0	-.5	-20.7	19.9	891.2	643.5	298.9	37.5
10500.0	684.6	-1.8	-22.0	19.5	878.4	641.9	297.7	30.4
11000.0	671.4	-3.1	-23.3	19.2	865.7	640.3	296.6	39.3
11500.0	658.5	-4.4	-24.6	18.6	853.3	638.8	296.4	39.5
12000.0	645.9	-5.7	-26.0	18.4	841.1	637.2	296.8	39.4
12500.0	633.5	-7.0	-27.3	18.0	829.0	635.6	297.2	39.2
13000.0	621.3	-8.4	-28.6	17.6	817.1	634.1	298.7	39.8
13500.0	609.4	-9.7	-29.9	17.2	805.5	632.5	301.3	41.2
14000.0	597.6	-10.5	-31.4	16.0	792.4	631.4	301.7	49.8
14500.0	585.9	-10.8	-33.0	14.0	777.8	631.1	300.9	65.6
15000.0	574.4	-8.6	-31.2	14.0	756.2	633.8	300.7	60.5
15500.0	563.3	-8.5	-31.2	14.0	741.3	633.6	301.4	85.7
16000.0	552.3	-9.4	-31.0	14.0	729.3	632.7	302.6	78.5
16500.0	541.5	-10.3	-32.6	14.0	717.5	631.7	303.5	64.6
17000.0	530.9	-11.2	-33.3	14.0	705.9	630.6	303.4	54.1
17500.0	520.5	-11.5	-34.2	14.2	695.4	629.1	303.1	55.3
18000.0	510.2	-14.0	-35.2	14.6	685.6	627.2	301.9	59.9
18500.0	500.1	-15.5	-36.1	15.0	676.0	625.4	300.7	64.5
19000.0	489.8	-16.3	-36.9	15.7	665.8	623.7	299.7	66.4
19500.0	479.0	-16.5	-37.6	16.4	655.8	621.9	298.4	66.1
20000.0	469.9	-19.8	-38.4	17.1	646.0	620.2	296.8	65.8
20500.0	460.5	-21.2	-39.2	17.6	636.3	618.4	295.6	67.4
21000.0	450.9	-22.6	-40.0	18.5	626.8	616.7	294.5	69.4
21500.0	441.6	-24.0	-40.9	19.2	617.5	614.7	295.5	71.4
22000.0	432.5	-25.4	-41.8	19.9	608.3	613.2	292.7	73.9
22500.0	423.7	-26.9	-42.7	20.6	599.3	611.4	292.0	76.3
23000.0	415.0	-28.3	-43.6	21.3	590.4	609.6	291.1	78.9

GEOMETRIC COORDINATES:  
32.40043 LAT DEG  
106.37033 LON DEG

STATION ALTITUDE 5989.00 FEET MSL  
2A JAN. 83 1330 HRS MST  
ASCENSION NO. 45

UPPER AIR DATA

020002G045

WHITE SANDS

TABLE 10

Cont'd

GEODSTATIC COORDINATES  
32°40'0"3 LAT DEG  
106°37'0"3 LON UEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CURIC METER	SOUND SPEED KNOTS	WIND DATA		INDEX OF REFRACTION
							WIRELESS (IN)	SPEED KNOTS	
23500.0	406.5	-29.7	-44.4	22.2	581.6	607.4	289.8	62.0	1.000130
24000.0	397.9	-30.1	-38.3	44.3	570.4	607.4	288.5	91.9	1.000128
24500.0	384.5	-30.7	-36.4	56.4	559.4	606.7	287.4	97.7	1.000126
25000.0	381.3	-30.7	-37.9	49.0	547.6	606.6	286.0	89.2	1.000123
25500.0	373.2	-30.9	-38.7	46.1	536.6	606.4	287.0	99.9	1.000121
26000.0	365.3	-31.3	-40.2	40.5	526.0	606.0	287.0	100.0	1.000118
26500.0	357.6	-30.5	-41.8	31.6	513.2	606.9	287.0	100.0	1.000115
27000.0	350.0	-30.1	-44.1	23.9	501.5	607.4	287.0	100.0	1.000112

STATION ALTITUDE 3989.00 FEET MSL  
28 JUN. 83 133n HRS MST  
ASCENSION NO. 45

MANDATORY LEVELS  
0200020045  
WHITE SAILUS  
TABLE II

GEODETIC COORDINATES,  
52°40'00"N LAT UEG  
106°37'03"E LON UEG

PRESSURE (EUPOTENTIAL MILLIBARS	FEET	TEPERATURE			WIND DATA
		AIR DEGREES	DEWPONT CENTIGRADE	REL.HUM. PERCENT	
850.0	4729.	10.3	-3.7	37.	258.7 27.7
800.0	6372.	6.3	-4.4	46.	281.9 25.5
750.0	8095.	2.5	-7.9	47.	294.9 30.5
700.0	9915.	-2.5	-20.5	20.	299.1 37.3
650.0	11841.	-5.3	-25.5	18.	298.6 39.4
600.0	13882.	-10.4	-31.1	16.	301.9 46.9
550.0	15087.	-9.6	-32.0	14.	302.8 76.1
500.0	18478.	-15.5	-36.2	15.	300.9 64.5
450.0	21050.	-22.7	-40.1	19.	294.4 69.7
400.0	23840.	-29.8	-40.0	36.	288.8 88.5
350.0	26952.	-30.1	-44.1	24.	

STATION ALTITUDE 3989.00 FT T MSL  
2A JAN. 83 1530 HRS MST  
ASCENSION NO. 46

SIGNIFICANT LEVEL DATA  
0230020046  
WHITE SANDS  
TABLE 12

GEODETIC COORDINATES  
32°40'43" LAT DEG  
106°57'03" LON DEG

PRESSURE GEOMETRIC MILLIBARS	ALTITUDE MSL FLEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
874.1	3989.0	14.6	-7
866.8	4220.9	12.7	-5
859.0	4758.7	10.9	-1.5
806.0	6202.7	6.3	-5.6
764.6	7614.0	2.6	-5.5
723.6	9071.3	-0.3	-9.4
709.0	9442.4	-7	-14.6
697.2	10047.6	-1.0	-15.2
674.0	10941.9	5.4	-18.6
668.5	11160.2	3.4	-18.6
604.9	13797.4	-2.9	-24.5
500.0	18625.8	-16.6	-34.2
470.5	20116.1	-21.0	-37.5
439.2	21772.8	-25.8	-36.2
413.7	23192.3	-28.0	-32.8
400.0	23986.7	-28.9	-32.6
380.3	25168.9	-31.8	-37.6
352.3	26350.2	-36.7	-41.9
338.7	27624.3	-38.5	-43.3

STATION ALTITUDE 3989.000 FEET MSL  
29 JAN. 83 4530 HRS. MT  
ASCENSION NO. 46

UPFLA AIR DATA  
0290020046  
WHITE SANDS  
TABLE 13

OUTLINE COORDINATES  
32°49'43" LAT  
106°37'35" LONG LLG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADF	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES IN	WIND DATA SPEED KNOTS	REFRACTION INDEX
3989.0	1074.1	14.6	-0.7	35.0	1055.6	661.7	260.0	1.000262
4000.0	1073.8	14.5	-0.7	35.2	1055.5	661.6	260.1	1.000262
4500.0	850.0	11.8	-1.0	41.0	1046.5	658.4	260.3	1.000260
5000.0	842.5	10.1	-1.8	43.2	1033.6	656.3	272.1	1.000256
5500.0	827.1	6.5	-2.5	45.6	1020.5	654.6	277.0	1.000252
6000.0	812.0	6.0	-3.3	48.0	1007.7	652.7	275.3	1.000248
6500.0	797.1	5.9	-4.0	50.3	994.3	651.0	273.6	1.000244
7000.0	782.3	4.2	-4.7	52.4	980.6	649.5	278.0	1.000240
7500.0	767.9	2.9	-5.3	54.5	967.1	647.9	269.0	1.000236
8000.0	755.5	1.8	-6.5	53.7	952.8	646.6	301.6	1.000231
8500.0	739.4	.8	-7.9	52.0	938.5	645.4	310.6	1.000226
9000.0	725.6	-2	-9.2	50.2	924.4	644.2	320.9	1.000221
9500.0	711.9	-5	-11.8	42.1	908.4	643.7	320.6	36.2
10000.0	698.5	-9	-14.9	33.5	892.7	643.2	331.7	42.4
10500.0	685.4	1.2	-16.4	25.4	889.4	645.0	330.7	47.4
11000.0	672.5	3.4	-18.6	18.0	886.5	646.1	328.7	51.9
11500.0	659.9	2.6	-19.4	17.9	833.1	647.2	323.6	55.3
12000.0	647.5	1.4	-20.5	17.7	A21.1	645.7	319.2	59.0
12500.0	635.5	.2	-21.6	17.5	809.2	644.3	315.3	62.7
13000.0	623.4	-1.0	-22.7	17.3	797.5	642.9	311.8	66.7
13500.0	611.7	-2.2	-23.8	17.1	786.0	641.5	309.3	69.3
14000.0	600.0	-3.5	-24.5	17.1	774.7	639.9	307.3	71.0
14500.0	588.5	-4.9	-25.8	17.4	763.6	638.2	305.4	72.3
15000.0	576.8	-6.3	-26.6	17.7	752.7	636.5	303.5	73.2
15500.0	565.5	-7.7	-27.8	18.1	742.0	634.8	301.6	72.7
16000.0	554.5	-9.1	-28.3	18.4	731.4	633.1	299.7	72.2
16500.0	543.7	-10.6	-29.8	18.7	721.1	631.4	298.3	71.3
17000.0	533.1	-12.4	-30.8	19.0	710.9	629.7	297.6	70.0
17500.0	522.7	-13.9	-31.9	19.3	700.8	628.0	295.7	68.7
18000.0	512.5	-14.8	-32.9	19.6	690.9	626.2	294.9	68.3
18500.0	502.5	-16.2	-31.3	19.9	681.2	624.5	294.1	67.9
19000.0	492.4	-17.7	-35.0	20.3	671.4	622.7	293.6	67.4
19500.0	482.5	-19.2	-36.1	20.6	661.7	620.9	293.2	66.8
20000.0	472.7	-20.7	-37.2	20.9	652.1	619.1	292.6	66.9
20500.0	463.1	-22.1	-37.5	23.1	642.5	617.3	292.3	68.2
21000.0	453.5	-23.6	-37.7	25.8	632.9	615.5	291.5	72.5
21500.0	444.2	-25.0	-38.0	26.5	623.5	613.7	289.3	75.0
22000.0	435.0	-26.2	-36.9	35.3	613.4	612.3	286.0	75.6
22500.0	425.9	-26.9	-34.6	46.0	602.0	611.4	282.7	73.0
23000.0	417.1	-27.7	-37.3	58.5	591.7	610.4	280.1	76.6

STATION ALTITUDE: 3989.00 FT; T: 45L  
 2A JAN. 83 1530 HRS MET  
 ASCENSION NO. 46

UPPER AIR DATA

0240020046  
 WHITE SANDS

TABLE 13

(cont'd)

GEODETIC COORDINATES  
 32°40'04.5" LAT DEG  
 106°37'03.5" LONG DEG

GEOMETRIC PRESSURE ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND KNOTS	WIND DATA REFLECTION: SPECIFIC REFRACTON:
	MM/HG	MM/HG	%	METER	MM/HG
23500.0	408.3	-28.3	65.7	580.9	609.0
24000.0	399.8	-28.9	69.8	570.0	608.9
24500.0	391.3	-30.2	63.9	560.9	607.4
25000.0	383.1	-31.4	56.9	551.8	605.8
25500.0	374.9	-32.7	56.4	543.0	604.1
26000.0	366.8	-34.1	56.9	534.5	602.4
26500.0	358.9	-35.5	57.5	526.1	600.6
27000.0	351.2	-36.8	58.2	517.7	598.9
27500.0	343.6	-37.8	59.3	508.6	597.6

GEODETIC PRESSURE ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND KNOTS	WIND DATA REFLECTION: SPECIFIC REFRACTON:
	MM/HG	MM/HG	%	METER	MM/HG
23500.0	408.3	-28.3	65.7	580.9	609.0
24000.0	399.8	-28.9	69.8	570.0	608.9
24500.0	391.3	-30.2	63.9	560.9	607.4
25000.0	383.1	-31.4	56.9	551.8	605.8
25500.0	374.9	-32.7	56.4	543.0	604.1
26000.0	366.8	-34.1	56.9	534.5	602.4
26500.0	358.9	-35.5	57.5	526.1	600.6
27000.0	351.2	-36.8	58.2	517.7	598.9
27500.0	343.6	-37.8	59.3	508.6	597.6

STATION ALTITUDE: 3989.00 FT MSL  
28 JAN. 83 1530 HKW MDT  
ASCENSION NO. 46

MANGAORY LEVELS  
0230020046  
WHITE SANDS

TABLE 14

GEODETIC COORDINATES  
32°40'04.3 LAT DEG  
106°37'03.3 LON DEG

PRESSURE (EUPOTENTIAL MILLIBARS	FEET	AIR TEMP. DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA DIRECTION (DEGREES) SPEED KNOTS
850.0	4755.	10.9	-1.5	42.	269.3 19.1
800.0	6309.	5.8	-3.9	50.	272.6 25.2
750.0	8118.	1.6	-6.9	53.	300.5 30.7
700.0	9933.	-0.7	-14.6	34.	331.3 41.7
650.0	11693.	1.6	-26.3	18.	320.4 50.3
600.0	13988.	-3.5	-24.9	17.	307.3 71.0
550.0	16218.	-9.7	-29.2	16.	296.9 72.0
500.0	18600.	-16.6	-34.2	20.	294.0 67.8
450.0	21160.	-24.1	-37.8	27.	291.0 75.7
400.0	23947.	-28.9	-32.6	70.	278.9 86.0
350.0	27031.	-37.0	-42.1	58.	281.9 87.4

**DAT  
ILMI**